

QH
301
D48

Developmental Biology

An International Journal

*Published under the Auspices of the
Society for Developmental Biology*

EDITOR-IN-CHIEF: Elizabeth D. Hay

ASSOCIATE EDITORS

Igor B. Dawid	John W. Saunders, Jr.
Keith R. Porter	Judson D. Sheridan
Frank H. Ruddle	Robin Wallace
Maurice Sussman	

ASSISTANT EDITOR: Mary J. Powers

FEATURE EDITORS

Eugene Bell	Francis J. Manasek
-------------	--------------------

ADVISORY EDITOR

Mac V. Edds, Jr.

VOLUME 28, 1972



ACADEMIC PRESS
New York and London

Volume 28; Number 4, August 1972

Copyright © 1972 by Academic Press, Inc.

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

Contents of Volume

28

NUMBER 1, MAY

M. V. EDDS, JR.	Edgar Zwilling	1
EDGAR ZWILLING.	Limb Morphogenesis	12
LESTER G. BARTH AND LUCENA J. BARTH.	²² Sodium and ⁴⁵ Calcium Uptake during Embryonic Induction in <i>Rana pipiens</i>	18
WALTER LANDAUER AND NASEEM SALAM.	Aspects of Dimethyl Sulfoxide as Solvent for Teratogens	35
BRIAN K. HALL.	Thallium-Induced Achondroplasia in the Embryonic Chick	47
JAMES W. LASH AND LAURI SAXÉN.	Human Teratogenesis: <i>In Vitro</i> Studies on Thalidomide-Inhibited Chondrogenesis	61
ARNOLD I. CAPLAN.	The Site and Sequence of Action of 6-Aminonicotinamide in Causing Bøne Malformations of Embryonic Chick Limb and Its Relationship to Normal Development	71
D. A. GARDNER, G. H. SATO, AND N. O. KAPLAN.	Pyridine Nucleotides in Normal and Nicotinamide Depleted Adrenal Tumor Cell Cultures	84
LEO RUBIN AND JOHN W. SAUNDERS, JR.	Ectodermal-Mesodermal Interactions in the Growth of Limb Buds in the Chick Embryo: Constancy and Temporal Limits of the Ectodermal Induction	94
ROBERT H. SINGER.	Analysis of Limb Morphogenesis in a Model System	113
ROBERT L. SEARLS, S. ROBERT HILFER, AND SUSAN M. MIROW.	An Ultrastructural Study of Early Chondrogenesis in the Chick Wing Bud	123
UDITH MEDOFF AND EDGAR ZWILLING.	Appearance of Myosin in the Chick Limb Bud	138
I. KIENY, A. MAUGER, AND P. SENGEL.	Early Regionalization of the Somitic Mesoderm as Studied by the Development of the Axial Skeleton of the Chick Embryo	142
DHOUALLY AND M. KIENY.	The Capacity of the Flank Somatic Mesoderm of Early Bird Embryos to Participate in Limb Development	162
AMES AUSTIN SULLIVAN.	Effect of Epidermal Rotation on Orientation of Scales in the Chick	176
LFRED J. COULOMBRE AND JANE L. COULOMBRE.	Corneal Development. IV. Interruption of Collagen Excretion into the Primary Stroma of the Cornea with L-Azetidine-2-carboxylic Acid	183
ARGARET B. AYDELOTTE AND D. M. KOCHHAR.	Development of Mouse Limb Buds in Organ Culture: Chondrogenesis in the Presence of a Proline Analog, L-Azetidine-2-carboxylic Acid	191
ILLIAM G. SHAIN, S. ROBERT HILFER, AND VIRGINIA G. FONTE.	Early Organogenesis of the Embryonic Chick Thyroid. I. Morphology and Biochemistry	202
Y NEVO, ALLEN L. HORWITZ, AND ALBERT DOFRMANN.	Synthesis of Chondromucoprotein by Chondrocytes in Suspension Culture	219
. MOSCONA, N. FRENKEL, AND A. A. MOSCONA.	Regulatory Mechanisms in the Induction of Glutamine Synthetase in the Embryonic Retina: Immunochemical Studies	229

ANN C. PLATZER AND SALOME GLUECKSOHN-WAELSCH. Fine Structure of Mutant (Muscular Dysgenesis) Embryonic Mouse Muscle	242
SHIMON KLEIN, JEROME A. SCHIFF, AND ANDREW W. HOLOWINSKY. Events Surrounding the Early Development of <i>Euglena</i> Chloroplasts. II. Normal Development of Fine Structure and the Consequences of Preillumination	255
S. MERYL ROSE. The Correlation between Bioelectrical and Morphogenetic Polarity during Regeneration in <i>Tubularia</i>	27
KAY PINE AND ATTILA O. KLEIN. Regulation of Polysome Formation in Etiolated Bean Leaves by Light	286
T. F. McDONALD, H. G. SACHS, C. W. ORR, AND J. D. EBERT. External Potassium and Baby Hamster Kidney Cells: Intracellular Ions, ATP, Growth, DNA Synthesis and Membrane Potential	290
ROBERT AUERBACH. The Use of Tumors in the Analysis of Inductive Tissue Interactions	30

NUMBER 2, JUNE

F. M. BUTTERWORTH. Adipose Tissue of <i>Drosophila melanogaster</i> . V. Genetic and Experimental Studies of an Extrinsic Influence on the Rate of Cell Death in the Larval Fat Body	311
ASBJØRN FJELD. Genetic Control of Cellular Differentiation in <i>Ulva mutabilis</i> . Gene Effects in Early Development	32
ARNOLD I. CAPLAN. Comparison of the Capacity of Nicotinamide and Nicotinic Acid to Relieve the Effects of Muscle and Cartilage Teratogens in Developing Chick Embryos	34
THOMAS GRIGLIATTI, DAVID T. SUZUKI, AND RODNEY WILLIAMSON. Temperature-Sensitive Mutations in <i>Drosophila melanogaster</i> . X. Developmental Analysis of the Paralytic Mutation, <i>para^{ts}</i>	35
C. ALONSO. The Influence of Molting Hormone on RNA Synthesis in Isolated Polytene Nuclei of <i>Drosophila</i>	37
JORAM PIATIGORSKY AND SONIA S. ROTHSCHILD. Loss during Development of the Ability of Chick Embryonic Lens Cells to Elongate in Culture: Inverse Relationship between Cell Division and Elongation	38
B. W. GEER, D. V. MARTENSEN, B. C. DOWNING, AND G. S. MUZYKA. Metabolic Changes during Spermatogenesis and Thoracic Tissue Maturation in <i>Drosophila hydei</i>	39
GERALD D. FISCHBACH. Synapse Formation between Dissociated Nerve and Muscle Cells in Low Density Cell Cultures	40
JOAN ABBOTT, RICHARD MAYNE, AND HOWARD HOLTZER. Inhibition of Cartilage Development in Organ Cultures of Chick Somites by the Thymidine Analog, 5-Bromo-2'-deoxyuridine	41
ERRATUM	41
News, Opinion and Letters	41
Current Literature	41

NUMBER 3, JULY

ROBERT F. DIEGELMANN AND BEVERLY PETERKOFSKY. Collagen Biosynthesis during Connective Tissue Development in Chick Embryo	4
PHILIP GRANT AND JANE F. WACASTER. The Amphibian Grey Crescent Region—A Site of Developmental Information?	4

JANET L. POTTER AND ROBERT A. WEISMAN. Correlation of Cellulose Synthesis <i>In Vivo</i> and <i>In Vitro</i> During the Encystment of Acanthamoeba	472
PATRICIA A. MARTIN AND EVELYN L. SHAVER. Sperm Aging <i>in Utero</i> and Chromosomal Anomalies in Rabbit Blastocysts	480
BRUCE M. CARLSON. Muscle Morphogenesis in Axolotl Limb Regenerates after Removal of Stump Musculature	487
LAWRENCE L. WEISMAN, MALCOLM S. STEINBERG, AND HERBERT M. PHILLIPS. Experimental Modulation of Intercellular Cohesiveness: Reversal of Tissue Assembly Patterns	498
PETER B. ARMSTRONG AND RICHARD NIEDERMAN. Reversal of Tissue Position after Cell Sorting	518
EIZO NAKANO AND SADAAKI YAMAMOTO. Amino Acid Components in the Fish Egg	528
JOHN J. EPPIG, JR. AND JAMES N. DUMONT. Amino Acid Pools in Developing Oocytes of <i>Xenopus Laevis</i>	531
News, Opinion and Letters	000
Current Literature	000

NUMBER 4, AUGUST

JOSEPH B. WARSHAW. Cellular Energy Metabolism During Fetal Development. IV. Fatty Acid Activation, Acyl Transfer and Fatty Acid Oxidation During Development of the Chick and Rat	537
MARION NESTLE AND MAURICE SUSSMAN. The Effect of Cyclic AMP on Morphogenesis and Enzyme Accumulation in <i>Dictyostelium discoideum</i>	545
ROBERT E. SEEGMILLER, DENNIS O. OVERMAN, AND MEREDITH N. RUNNER. Histological and Fine Structural Changes During Chondrogenesis in Micromelia Induced by 6-Aminonicotinamide	555
DENNIS O. OVERMAN, ROBERT E. SEEGMILLER, AND MEREDITH N. RUNNER. Coenzyme Competition and Precursor Specificity during Teratogenesis Induced by 6-Aminonicotinamide	573
MICHAEL J. FLOWER. Cellular Heterogeneity in the Chick Wing Mesoblast. I. Analysis by Equilibrium Density Gradient Centrifugation	583
HANDLER FULTON. Early Events of Cell Differentiation in <i>Naegleria gruberi</i> . Synergistic Control by Electrolytes and a Factor from Yeast Extract	603
TANLEY SHOSTAK. Inhibitory Gradients of Head and Foot Regeneration in <i>Hydra viridis</i>	620
F. GOETINCK AND M. J. SEKELLICK. Observations on Collagen Synthesis, Lattice Formation, and Morphology of Scaleless and Normal Embryonic Skin	636
JOHN PAPACONSTANTINOU, WILLIAM S. BRADSHAW, EUGENE T. CHIN, AND EMILIA M. JULKU. Synthesis of Satellite DNA in <i>Rhynchosciara hollaenderi</i>	649
ERRATUM	662
AUTHOR INDEX	663
SUBJECT INDEX	665
<i>Features</i>	
News, Opinion and Letters	f-13
Current Literature	f-21

